QL TECHNICAL REVIEW

ISSUE 6

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EDITORIAL

Hello again to our faithful, and patient readers! Most of the text inside has been printed out on a Laser printer courtesy of Bruce Nicholls, to whom thanks. This is very much an experiment, and I'd welcome any feedback you have. I've had to re-do a couple of items, including this one, to accomodate changes since the original text was printed off. I've also slightly adjusted the default lengths of text per page to give more margin for error at the photocopier and more room for headlines.

Well what have we to report ? Not a lot really - the last issue seems to have been quite well received, apart from a somewhat cryptic remark in QL World about Rich Mellor's article on TurboCharge, attributed to Simon Goodwin. I've asked for Simon to put his comments and we hope to run them in QLTR 7 or 8.

In the last issue I mentioned the possibility of QLTR Support disk, to cover QLTR 5 and 6. Demand has been so poor that I've not bothered this time, but I am keeping items to one side in case there is some enthusiasm for it in the future.

As for this issue - we feature reviews of two new keyboards and interfaces, continue our look at financial programs and Super Toolkit II, and for the rest - well look at the contents page! If what you've written hasn't made it to this issue, then we should print it in QLTR 7.

Feedback does seem to be a problem. Stephen Bedford wrote asking what people were saying about his Super Toolkit II articles, and I had to report that apart from some comments (not 100% favourable) from one person, there has hardly been any feedback at all. My surmise is that readers are quietly reading all this and only comment if they are very annoyed with what is written. However as sales are still increasing and many readers make very generous general comments about the magazine we assume that people are happy with it, unless we hear otherwise.

The news section reports developments from Miracle and QView and we have various hardware reviews in this and forthcoming issues. What seems to be missing in the QL scene is any strategy for upgrading the hardware.

Whilst it is very understandable that commercial considerations preclu premature product announcements, I feel it would be advantageous for QL users to formulate ideas for hardware improvement, so that producers could know what would sell, and more importantly, could arrange for compatibility between new hardware and software products.

Currently there are (or have been): replacement keyboards (and interfaces), mice (and interfaces), modems, add-on memory boards, joysticks, disk drives (and interfaces), accelorator cards, real-time clocks, replacement ROMS, screen speed-up ROMs and software, pointer environments, Toolkits/ SuperBasic extensions, printer interfaces, hard disks (and interfaces), EPROM programmers and blowers, replacement cabinets, boards to allow 3 extra cards t be used, I/O boards, repalcement power supplies, digitisers, speech synthesizers, midi interfaces, and doubtless more. I also understand the new products are still being developed, including an improved graphics and a speech synthesizer board.

Now between them, all these products would make for a very powerful system - if they work together and if the software co-operated! What we need is a fully worked out specification for a "Super QL" and for all new hardware and software to be designed to be compatible with it. The best people, to set-up this specification would be a combination of exisiting hardware and software producers together with users, co-ordinated by QUANTA ?

Anyway, that's enough from me this issue. The next issue will be out sometime this summer. The Laser printing has shown up one problem, with printing £ signs, so we may have to re-think how we go about printing the files and laying them out. Ideally the whole process should be unified - but I'd need either to hand over to someone with the necessary kit or buy it myself. As my funds are severly limited, I'd be interested in hearing from anyone who could assist in the production of QLTR. Ideally they would take the files I have received and done the pre-production work on, and then work out all the layout etc up to the stage where the magazine is ready for photocopying. At that stage I can take over. Offers welcome.

C.U. soon, Richard. (Editor & Publisher)

NEWSETTES

The past month has seen what will probably be the single most important piece of QL hardware released onto the market this year. Miracle Systems have produced a monstrous expansion/disk iinterface/ accelerator board which knocks the Trump Card into a rather tatty cloth cap and other cards into moth-eaten hankies.

O.K. hype over, what are the spex of the Gold Card? Firstly the acceleration has been permitted by putting a 12Mz (and soon a 16Mz) 68000 chip on board coupled with 2Meg of RAM and a custom chip called INGOT (Making it faster than the standard ST or Amiga!)

With the increased power of the 68000, Miracle have put 2 Megabytes of RAM on the ird (on 4 chips!). As the RAM shadows the QL address space from zero upwards this means that the total memory available to QL users will be 1920K, giving QL users a much greater amount of memory to play with than their ST or Amiga counterparts!

Miracle's custom chip, called INGOT, allows the clock to run at the full 16Mz, which when coupled with the entire memory being in the new 2Meg RAM, means that the processor has access to full 16 bit width memory even for the SuperBasic interpretor and QDOS, and at zero wait state. That means the speed should be about x4 compared with the normal QL, and probably even quicker than an unexpanded QL.

Not content with this, Miracle have upgraded the disk interface so that it can now operate up to 3 disk drives with 360K, 20K, 1.44Mg and 3.2Mg formatted capacity!

To cap it all, the interface will include a battery backed real-time clock, allowing the time and date to be displayed on power-up. All this on a card that is smaller than the Trump Card and consumes less power and is covered with a two year warranty. Cost - a mere £375 for the full-spec card; £350 for the 12Mz version (cheaper for export buyers.) Miracle may also allow you trade-in your existing Ram expansion/disk interface - check for details. (Blimey - it's so good I may even buy one for myself!) (And following on from my comments on the "Super QL", I reckon that this board is the obvious candidate for being the main board around which everything is built.)

New from QView are two new products. The first is a new version of Minerva (v1.89). I'm not sure what are the main differences between this and earlier Minervas, but the main point about it is that it is compatible with QView's other new product, Minerva RTC, which features a Real-time clock and 240 bytes of RAM, all battery - backed so they are retained when the QL is turned off. The RTC can recall your prefered MODE, network station, some Minerva enhancements optionally disabled, ROM's optionally "soft unplugged" etc. The other part of the RTC board is that it incorporates the Philips I2C bus which allows various peripherals to be attached to the QL via some spare holes and "a sub-miniture edge connector on the board".

I understand that QView and Miracle Sysytems will be co-operating to ensure that these products are mutually compatible, an excellent sign. Interestingly, the two real-time clocks do not conflict and, indeed can be used in conjunction with each-other. Price for the Minerva RTC is £65 (£5 off for QUANTA members).

Also on show at the QUANTA Workshop and AGM were Dennis Briggs' 4-way connector which allows the QL mainboard to be connected to (for example) a memory/disk interface card; a hard disk card or interface or any other hardware that could slot into the QL's internal expansion slot. These can be fitted into a Tower system if one wants - to kick when things go wrong. No idea, yet, whether this board has any problems with the Miracle Systems or other add-ons.

Steve Bourne, who will be trading as QBITS, had a stall and had various QL ROMS blown onto EPROMs which could be slotted into the QL rear edge connector slot, provided you remove any existing internal ROMs. This facility is obviously only available to people with the existing ROMs. This will be invaluable for those of us testing out new software for compatibility with the numerous QL ROMs.

Right, that's all the news for this issue, I hope we'll have in depth looks at these products in future issues. We welcome news of all QL hardware and techie software, not to mention reviews on such products.

Richard Alexander

QL QUICK POSTERS

Written by Dilwyn Jones
Published by Dilwyn Jones Computing,
41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, Cymru, LL7 3YT
Price: £10.00 (Disk only)

Whilst helping to man the Quanta Lancashire Sub-group stand at the Northern Computer Show in December I found that we were located next to the Dilwyn Jones Computing stall. As usual I was tempted, before the show ended, to purchase for £10 a program I had seen advertised recently namely QL Quick Posters. I was very impressed with the posters on show on Dilwyn's stand which had been produced with this program.

"Quick Posters makes text only posters quickly, simply and effortlessly by harnassing facilities built into many modern printers" states the blurb at the beginning of the manual. What did I think of it? Please read on.

What do you get? Either a disk or cartridge which contains the main program together with an update-doc, printer drivers and demonstration pages. The program works on an unexpanded QL. The back-up procedure is available on the disk or cartridge and of course this is the first procedure that should be carried out. With this program Dilwyn has included a separate instruction manual which is very comprehensive. The program is written to be run in conjunction with either a laser or a 24 pin printer although some 9 pin printers are suitable. Nearly five pages of details for the printer drivers are given so you should be able to write your own printer driver if required. I was lucky in that the standard printer driver was compatible with my Star LC10.

The program loads from a normal boot file and you are presented with a screen format that is very similar to the well known Quill layout. The top part shows brief instructions together with the title and copywright notice whilst the bottom part shows details such as page size, text size, font type, italics and underline settings. In between as in Quill is where you design your poster. Let's make it clear before we start that the screen display is not WYSIWYG (What you see is what you get) and this can be a little confusing at times. Typing in the text is similar to a word processor but there is no word wrap.

Commands are issued via the F3 and F4 keys with the instructions coming up on the top display as in Quill. The first letter of the command activates it, again, what a surprise, as per Quill.

The F3 menu produces: Border: Driver: Files: Load: New: Print: Quit: Save: View: Wipe: The use of most of these is self evident so I will just explain the odd ones.
Border provides a poster border using the normal keyboard characters. The border can made up of either one character or a combination of up to eight different characters.

New defines a new page which enables the page size to be determined. I found this very useful as it proved very difficult to fill a normal A4 sized poster successfully when the largest print size is limited to Quad. For example a page size of 60 characters across with 40 lines down produced a smashing handout size leaflet.

View produces a preview picture of the entire page to give you an idea of the page layout and likely appearance when printed. A facillity included in most desktop publisher programs.

Wipe simply clears the page without changing its size.

The more interesting options are under the F4 Styles menu: Bold: Font: High/Low: Italics: Justify: Ornament: Size: Underline: These are the commands that select your size and style of text.

Bold gives the option of printing with double strike.

Font gives a choice of up to eight different fonts provided that your printer is

capable of printing them.

High/Low gives the option of using subscript or superscripts.

Justify allows four different formats 'left', 'right', 'centre' and 'left and right together'.

Ornament gives the option of special print effects of outline, shadow and a combination of both.

Size gives four different sizes for text with the maximum quad.

The actual poster is composed on the screen with the different options outlined above available for each individual line. This has the advantage that a poster can be produced with multiple text styles and sizes but note that the options can only chosen for a complete line hence it is not possible to highlight a word or phrase within a line with bold, italics or underlining etc.

The composing of the poster is easy and a poster can be quickly assembled but it is not always possible to envisage the final product from the screen display. It is best to obtain a draft printout and it is then fairly simple to change your poster to obtain the format you require. The only option that cannot be changed is the page size.

I spent some time finding out the peculiarities in the program. For example if a border is to be used it is neccessary to allow a blank line at the top and bottom of the page. Also spaces must be typed at the front of lines that are to be left or left and right justified. Likewise spaces must be put at the end of the line in text that is to be right justfied. Obvious I suppose really but it caught me out.

I found out that the ornament option is not available with my printer so I cannot comment on this option.

The composition of the border is well worth experiment and I was most impressed by a border of # (hashes).

Printing also required a little trial and error before a satisfactory printout was obtained. I found it necessary not to use the printer jusitification option although the printer proportional spacing option caused no problems. Choice of the print pitch is most important as this appears to affect the justification. I found that 10 c.p.i. was the correct setting for my printer.

So having spent some time with this program I am most impressed. It does not produce the standards of desktop publishing software but then again it was never expected to. It is very simple to use once the odd quirks have been sorted out and the end produce is very satisfactory. As it's title suggests posters can be quickly produced. It is a smashing program and is excellent value for money. Once again Dilwyn has produced the goods and I await with eager anticipation further software from this source.

Keith Reader

HIMSELF:

I briefly used this program recently to do a load of disk labels, making use of the sample disc_label_page supplied. I eventually got what I wanted from the program, but only after quite a few mishaps. For the record, I found that printer justification had to be turned off, and proportional printing also had to be disabled as the double-height printing caused problems with the Panasonic KXP-1124 paper feed. Also the on-screen refresh needs sorting out as it is all-too-easy to print a label with undeleted characters, which have been removed on-screen but not from the label. I've mentioned these points to Dilwyn, and so there maybe a upgrade in the pipeline.

VISION MIXER -REVIEW

Written by Dilwyn Jones
Published by Dilwyn Jones Computing,
41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, Cymru, LL7 3YT
Price: £10.00 (Disk only)

Dilwyn Jones has been producing quality programs for the QL for some years now. Possibly the most famous of which is Page Designer 2 the splendid "user-friendly" Desk Top Publishing program.

Having previously relied on third parties to sell his software Dilwyn has now decided to go it alone and publish his programs through his own company DJC (Dilwyn Jones Computing). Initially three titles were avaiable from this new company Vision Mixer, Basic Reporter and Wordscheck. (See note at end for the situation regarding Wordscheck.)

Vision Mixer is basically a display program used to present a series of QL screens in shops, exhibitions or lectures. It runs only on expanded QL's and to run properly requires at least 256K memory. Although it will run on microdrive cartridges it is far happier with floppy disks.

The screens used can be in either four or eight colour mode. Any number of screens can be displayed in sequence or in randam selection. The real power of the program comes in the way that the screens change from one to another. These changes are called "vision wipes" in the television and film industries. The program contains over 100 different wipes and it is these screen changes that provide the novelty and professional presentation of the pictures.

The program comes with a Vision_Mixer_doc that provides an excellent comprehensive manual. The trouble with this method of supplying the instructions is that it relies on the customer owning or having access to a printer.

A series of demonstration screens are provided on the disk and these can be used when working through the instruction manual. Screens from most QL art packages are suitable for display and they may be in Mode 4 or 8 but all pictures for use at any one time must be in the same mode. Also screens produced with Page Designer 2 can be ulitilised. The program will not work with any form of compressed screen.

The setting up of the program is fairly involved but by reading the instructions throughly and working through step by step there should not be any major problems. The program provides simple on screen prompts between steps which is particularly useful. I certainly had no difficulty in getting the display working.

Vision Mixer is very effective and creates pleasing displays and although it has limited use in the hands of the majority of QL owners it is certainly not overpriced at £10. I can definately recommend it.

There is no doubt that the above programs are very professionally written (only to be expected from Dilwyn) and a welcome addition to the list of software available for the QL. I am looking forward to further software productions from this author. Could a Page Designer 3 be on the cards? Now that would be something to look forward to!

Keith Reader

NOTE: Keith originally also wrote a review of WordsCheck by Dilwyn Jones, but Dilwyn has not only re-written the program to remove the bugs discovered in the review, he has also placed the improved program into the Public Domain! I wonder how many other authors would be prepared to do that? If anyone has a copy of the earlier versions of Wordscheck, with the faulty word counter, they can either send them back to Dilwyn for updating or they can send them to C.G.H. Services and we'll copy the new version over for you - provided you send the master and an s.a.e.

Richard Alexander

COCKTAILS WAITER

Written by Imre Dominik
Published by Dilwyn Jones Computing,
41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, Cymru, LL7 3YT
Price: £10.00 (Extra recipe sets £5.00)
Requires 128K Memory expansion

Have you ever wished that you could make even one of those fantastic cocktails they have at all the best parties? Ever wondered what goes into a Rusty Nail, or why your Bloody Mary's just come out Bloody Awful?? Well, this could be the program for you.

Okay, I did at first wonder why Richard had sent the review copy of this program to me, maybe he didn't realise that I'm tee-total! Still, at least I can view the program from the point of view of someone who has no idea just what to do in the way of cocktails (it also meant that I could look at the program without trying out some of the recipes until I was in no fit state to write about it!)

The program itself is a database of over 400 different cocktails, which is accessed using a version of the runtime archive. This does mean a slight speed disadvantage, but changing the program so that the database is contained on Ram disk is relatively simple, and makes a big difference in access times.

Each cocktail is supplied with a list of the ingredients and just how to make it. This information can be accessed in different ways. You can either enter a name of a cocktail to find out how to make it (ideal if you're on the bar at a party), or enter the names of the different ingredients you have at your disposal and ask the program to find as many cocktails as possible that you can make with those ingredients.

The results can be sent to printer or to the screen if you are in a hurry, and since Archive is being used, most users will already have a printer_dat file set up for their printer which can be used with the program.

Overall the program is well laid out and could prove very useful for parties. There were however a few minor quibbles I found which could lead to some problems:

1) When you open a new file (useful if you get hold of one of the other sets of recipes available), you are asked to specify the filename. Entering 'flp1_mix2' for instance tells you that this is an invalid filename, you must enter 'mix2', so the program can add its own default device name. Further, if the program then fails to load the file for some reason, you are told of the error, but then must re-load the original file again.

2) You also have the option to alter the records. This could be useful if you preferred to add something extra to some cocktails. To do this, you can either work with the whole file, or create a subset of files. Well, for the review, I chose to create a subset of all those cocktails containing Vodka. I did appreciate the thoughtful comment that this can take a long time, and so was I certain, but proceeded. The first thing I noticed was that I was only presented with two cocktails (neither of which was a Bloody Mary despite earlier investigation telling me that the ingredients for this in the database included Vodka). Well, I then proceeded to mess with the second record presented, and was most surprised that the record I was given to edit was record number 2 in the MAIN file, NOT record number 2 of the subset. Well, I immediately wanted to escape the Alter record part, and so pressed 'Escape' - lo and behold, I was returned to Basic!!

Despite these minor quibbles (perhaps the manual warns you of some of them, but then I was not supplied with a manual for the review), the program does actually seem to be pretty robust. It is certainly a novelty use for the QL, but who knows, maybe the QL could start appearing in local wine bars - all we need now is a small robot to take the ingredients and mix them for you.....

Rich Mellor

HELPLINE

FRACTAL UPDATES

A variety of pleas for help in this issue. Either contact people directly, but if you can offer any helpful advice we'd be pleased to know so that we can print follow-ups in the next issues of QLTR. The editor regrets that he is unable to answer all technical queries relating to the QL. He is primarily an editor and QL user and not an technical expert.

Our first plea for help came from Dr M.H. Gilbert who had been passed on to us from Sinclair Research (!) He has a QL Vision Monitor which he is trying to repair but is having difficulty finding spares. The full details of the monitor are:

Taxan 12" Colour Monitor (Model KS12R307S-BN), distributed by MBS Data Efficiency of Hemel Hempstead.

He requires a "Line Osc Transformer" No. 4X01 / MSHIAAB31 / SF13026A1

I've suggested that he try a local reputable TV repair person, as my local repair people were able to fix the Microvitec Cub 653 Monitor I have, very easily. Any further input welcome.

A quick plea for information. Some time ago, there was mention in the QL press the Neil Taylor was doing a laser printing service for QL users. Sadly Neil is no longer contactable at the last address we have for him. If anyone knows what has happened to Neil OR of anyone who is performing a similar service for QL owners (i.e. laser printing text and grafix.)

Bob Dyl of the Sea Coast User Group in the United States has asked if we can help him obtain the following back issues of QL World:
1989: January, March.
1988: Feb, March, April, Aug, Sept, Oct, Nov, Dec.
1987: October.
1986: April, June, July, Aug.
1986: QL User - January.
1985: January, Feb, March, April, May, June, July, Aug, Sept, Dec.
1984: Anything.

Write to Bob, c/o C.G.H. Services, if you can help with these, stating the cost - including postage.

First up is Kenneth Murray's Quick Mandelbrot program. This is a simple to use Mandelbrot generator. It's written in machine code for speed - but obviously the speed it works at also depends on the area of the Mandelbrot set being mapped, and what hardware you're using - a standard QL is slow; internal RAM expansion speeds it up a bit; external RAM is quicker still. Beyond that the Amiga QL emulator runs at twice a QL rate, with 512K SuperQBoard and Minerva ROM, (but don't use the Amiga mouse!) and we expect the Miracle Systems Gold Card with its 16Mz 68000 and 2Meg of RAM to speed it even further. Anyway the program works in Mode 8, comes on disk or mdv and runs on all QL's. The publishers of this piece of QL software is C.G.H. Services. and the cost is a paltry £8.80. (inclusive of P&P) Full review in QL World soon, we're told - and here too when someone reviews it.

We've received the PROGS Qractal program and can report that, once the manual has been mastered, it works very neatly. It has three colouring options, mode option and several features that mark it out as a quality fractal program. The price may depend on where you source it, but £30 would seem a likely price. Comes with a ring-bound manual. Future upgrades will make it compatible with the ST QL emulator. (Note: C.G.H. Services are not selling 3rd party software anymore to give us a bit more time to get our work done!).

Still haven't seen the QualityTrader Mandelbrot program - if anyone out there as seen it, we'll be pleased to print a review of it for the magazine.

On the P.D. front, Carl L. Cronin has very kindly sent a new program that will print out the Mandelbrot set, in colour on a Star LC10C. One very clever feature is that it can be resized from postage stamp size to whatever is the biggest paper you can fit into your printer. Carl sent me a printout on an A4 sheet with a resolution of 960x792. Carl has included the source code so other users can amend the code to run on their printers. I suspect this will need a top quality colour printer to get the best out of it (it really needs solid colour which is practically impossible on a dot-matrix printer.)

Richard Alexander

PS/2 STYLE KEYBOARD

REVIEW BY MICHAEL L. JACKSON

Previously sold by Schon at around £115, the 102 key PS/2 style keyboard for the QL is now available directly from the manufacturers, Keyboard Products of Market Harborough, at the considerably reduced price of £72. Currently this is probably the cheapest add-on keyboard for the QL, though rumours were circulating at the QUANTA Worthing workshop that another UK hardware supplier is about to import an internal interface to allow any IBM-style XT or AT keyboard to be added to the QL. Such keyboards can be bought for as little as '15 so this might undercut the Keyboard Products offering by a few pounds. Watch this magazine for further news when available.

TROUBLESHOOTING

Sharp-eyed readers may have spotted a couple of references to problems in respect of Keyboard Products (KP) in the October and November issues of QL World. In my case, the problem now seems to have been overcome, but I feel I should pass on the details for the record.

I ordered one of the PS/2 style keyboards at the time of being elected QUANTA Treasurer. As QUANTA's accounts are maintained on a QL, I felt that the separate numeric keypad provided on this type of keyboard would offer worthwhile advantages over the standard QL keyboard and the price reduction encouraged me to send off an order at the end of March. I had first telephoned KP beforehand to check availability of the product as their advertisement did state that stocks were limited. A member of their staff reported that all existing stocks had been sold very soon after their first QL World advertisement, but that if there were sufficient enquiries from potential customers the item would be put back into production. Subsequently I received a letter saying that the keyboard would be produced again, and that any cheques would not be cashed until the goods were ready for despatch.

Unfortunately, the cheque was cashed by KP as soon as they received it but it was a further five months before the keyboard was delivered. In the meantime I had been telephoning KP at regular intervals only to be told that the keyboard would be ready for delivery in two to three weeks - every time I 'phoned. I had begun to doubt that it would ever arrive, hence the complaint to QL World's Troubleshooter.

FITTING THE KEYBOARD

When the keyboard finally arrived by post in September, it was securely packaged and provided with adequate fitting instructions, at least as far as standard QLs are concerned. I would expect that most people could fit the interface, replacement QL cover and keyboard in less than ten minutes to an unmodified QL. People who have modified their computers might encounter problems fitting the interface, which plugs into the 8049 processor's socket and extends over the 128K internal RAM towards the 68008. I had a Minerva ROM fitted to the QL and found that because it is raised a little higher than the original Sinclair ROMs there is not sufficient room for the keyboard interface. I put an empty 40 pin socket, available from Tandy and similar suppliers for a few pence, into the 8049's socket, which raises the interface above Minerva. However, I suspect this solution will only be suitable for those who plan installing their QL in a PC type expansion box as the raised interface meant that the top of the QL would not fasten into place! I got over this problem by removing Minerva and installing JS ROMs instead. (I took the opportunity of sending Minerva back to QView for an upgrade, then fitted it to another QL on its return.) QL owners with some types of internal expansion RAM might also encounter problems fitting the interface.

DEMONSTRATION DISASTER

A few days after fitting the keyboard I had the chance to demonstrate it at the monthly meeting of the QUANTA Lancashire sub group. Instead of taking the green screen monitor I normally use with the QL, I borrowed a portable black and white television. This revealed the first major problem I encountered with the keyboard. Earlier Schon XT style keyboards had been supplied with a flat aluminium cover to replace the original keyboard, but now the PS/2 keyboard is supplied with a modified QL top which

has only a black plastic plate screwed to it. This proved inadequate to prevent the QL causing severe interference on the television screen. As the sub group meets in the bar of a social club a new QL hardware accessory was to hand - a metal beer tray. Placed over the QL, this helped keep the interference down to a level that allowed me to see what was on the screen! This was not good news, as it revealed that what I was typing was not what was being sent by the keyboard to the QL. The next day I removed the interface and re-fitted it, taking care to ensure that all pins were in place, but there was no improvement in performance.

I concluded that either the interface or the keyboard must have been faulty, so I returned everything to KP for repair or replacement. I took this opportunity to inform them of my intention to review their product and mentioned some of the problems I had encountered in respect of Minerva and usage with televisions. A month later a keyboard was returned and I was told that my comments were being considered, but I received no specific answers to the points I had raised. However, this time the keyboard seemed to work correctly and I am using it to write this review!

IMPROVED INTERFACE

I had received a brief note of apology about the delay, but no explanation. From other sources I have heard that KP had experienced delays as they had to redesign the Schon interface, some versions of which caused problems with mouse and joystick operation. I can confirm that joysticks now work correctly, but do not have a mouse.

The numeric/cursor keypad helps to overcome the lack of a mouse as it offers diagonal cursor movement on keys 7,9,1 and 3, space on 5 and an additional enter key. There is also a 'Recall' key which acts as ATL-ENTER for Super Toolkit II users. Pressing Num Lock, which has a red LED to show its status, gives numbers 0 to 9, / for divide, * for multiply, - (minus), + plus, . (point), and enter, an ideal combination for spreadsheet work.

The keyboard has 12 function keys - F1 to F5 work as normal; F6 to F10 are equivalent to SHIFT-F1 to SHIFT-F5; and F11 and F12 duplicate F6 and F7. The CTRL, ALT, SHIFT and cursor key combinations work as normal but there are extra keys with some standard combinations assigned to them. Backspace and Del should allow single key character deletion in most software, but the action performed by the Page Up/Dn keys, Del Line, Skip left/right etc will depend on the particular software being used and should be discovered by experimentation. The single key underscore is a useful addition, but it means that the minus is now at the far right of the keyboard. The Caps Lock and Scroll Lock (CTRL-F5) keys also have red LEDs. Sys Req performs the function of the CTRL-C keypress, i.e. swapping between multi-tasking jobs, and there is a separate Break key to halt SuperBASIC programs.

CONCLUSIONS

At around £43 cheaper than when supplied by Schon, the keyboard is good value for money, especially if all previous bugs have genuinely been eradicated. The keyboard has a nice feel to it, compared both to the original QL keyboard and to those supplied with cheap PC clones (or even some expensive business machines). It is not quite the quality of a real IBM keyboard, which has a far greater price tag. However, I think the functions assigned to some of the keys are more useful than those on a real PS/2. Overall, it is probably of most benefit to those who intend fitting their QLs inside PC-like boxes so that Minerva can be fitted as well.

I have spoken to users of the keyboard who have had them for much longer and they have passed on some useful tips. It is essential to make sure that all the pins on the interface are inserted into the 8049's socket and then that the 8049 is correctly in its new socket. Apparently the keyboard will work without every pin in place, but there will be problems! Some QLs might have 8049's which the interface doesn't like. If there are problems from the start, it might be worth getting a new 8049 from someone like TF Services or Adman Services. If problems develop after some time it may be necessary to remove the main chips from the sockets on the interface and then re-insert them firmly.

J. FALKENBERG KEYBOARD

This latest addition to the ranks of products designed to consign the hideous original QL keyboard to the dustbin originates from Jurgen Falkenberg. The interface, which can be either internally of externally fitted, enables the QL to use almost all of the currently available PC keyboards, be they AT or XT compatible. Though the interface itself is quite expensive, £75, the cost of PC keyboards can be as low as £25. Thus, the 'running costs' of replacing an old keyboard will be very low, and, even if the QL market collapses, PC keyboards will still be available as their market is huge. So, with such thoughts to convince me I was doing the right thing, I sent off for an interface (internal fitting) from TK Computerware. Three weeks later it arrived.

The interface consists of a small (roughly 15cm x 5cm - this is from memory as I don't want to have to open my QL again to look) motherboard with about a dozen chips fitted, and one empty socket. The interface is designed to replace the 8049 co-processor (just to the left of mdv1_) which will then be re-inserted in the empty socket. This task requires a lot of patience as the 8049 is the hardest chip in the QL to remove - mdv1_ and the front edge of the case get in the way. If you have the chip removal device supplied with the old QIMI mouse interface then things are much easier. As I don't, I had to settle for a small flat-bladed screwdriver and about half an hour.

Opening up the QL case, which invalidates any warranty, is quite easy. Firstly, disconnect all leads and remove any expansion boards (eg. Trump card) and external roms (eg. Lightning). Now turn over the QL and locate and undo the eight Phillips screws around the edge of the base. If you have not previously opened up a QL then you will probably have difficulty finding two of the screws. This is because Sinclair was in the habit of sticking his small green labels over them. Do not undo the two screws under the microdrives. This done, turn the computer back over again so that it is facing you normally and get a couple of big heavy books. A dictionary or two usually does the trick (I use a certain massive Inorganic Chemistry text book). Place these books behind the computer and slowly 'bend' back the top. This top section, which is mainly the original keyboard, is connected in two ways to the motherboard. The keyboard membrane connection consists of two ribbon cables that go into the sockets in the middle of the QL, and the power leads for the 'microdrive in use' and 'power on' LEDs fit into a socket behind mdv1_. For the fitting of this interface neither of these cables needs to be unplugged, and the original keyboard will still be usable at the same time as any PC keyboard attached to the new interface.

Now comes the hard bit, removing the 8049. This is the 40 legged chip just to the left of mdv1_. First, make a note of the position of the notch on one end of the chip, as when you put this in its new socket on the interface it must be the same way round. Usually, this notch points towards the back of the QL where all the sockets are, eg. ser1, ser2, ctrl1, ctrl2 etc. Place the blade of the small flat-bladed screwdriver slightly inbetween the chip and its socket at the end nearest the back of the computer. At this point the screwdriver should be horizontal. Now twist the screwdriver slightly along its axis (i.e. NOT up and down). This should raise some of the legs a little bit out of their sockets. To avoid bending the legs the chip must be eased out level. This requires lifting the legs a bit at one end and then at the other end a bit and then back to the first end etc. It is the end near the front of the computer that gives the most trouble, and it is here where you must be the most patient. Obviously for this end it is impossible to lift the legs in the ideal manner I have described above, and you will need instead to lever in a slightly up and down fashion. This requires great care to avoid damage to the chip. Though I have gone into detail as to how tricky removing this chip is, it is by no means impossible. Indeed, I have so far removed it at least half a dozen times without damage. The main message here is to have patience - DO NOT RUSH.

Having removed the 8049, the interface can now be put in its place. This may require a little force, but use insistent pressure rather than a hammer! This done, the 8049 can be inserted in the empty socket, with the notch pointing in the same direction as before. The cable from the interface that ends in a five pin DIN socket can be trailed out of any available hole - I feed mine out above ser2. This makes ser2 unusable, but

I never used it anyway and I know of nothing which does. Now place, but do not screw, the top back on the QL and connect your monitor only. Now power up the QL and see if the usual 'tweed' memory check and then the F1 F2 start up screen appears as per normal. If it does not, turn off the power post haste and check your workings. Assuming it does, a PC keyboard can now be attached.

The latest version of the interface has two DIP switches which enable selection of new or old XT or AT keyboards. Select the appropiate settings and try the keyboard. Continue trying all the combinations until you get a result. If you have no luck, check to see if your keyboard is AT/XT switchable. Mine is, and during installation this caused some confusion. Given the choice, select AT rather than XT as this allows auto-repeat of scroll-lock which can be used to reduce the speed of screen output without stopping it entirely. When you are sure everything works, disconnect all the peripherals and screw the case together again.

The interface works by placing a 'filter' between the PC keyboard and the QL. This filter interprets PC keypresses and translates them into appropriate QL signals to send to the QL keyboard controller. To elucidate, when you press backspace on the PC keyboard, the filter translates this to CTRL + LEFT and sends this to the QL which responds as expected by deleting the character to the left of the cursor. Using this method, all the PC keypresses can be catered for and most perform analogous functions.

See the table below.

PC Keyboard Key	QL Function Performed
F6 TO F10	SHIFT (F1 TO F5)
F11 AND F12*	CTRL (F1 AND F2)
Backspace	CTRL LEFT
Delete	CTRL RIGHT
Insert	ALT ENTER
Home	ALT LEFT
End	ALT RIGHT
Page Up	ALT UP
Page Down	ALT DOWN
SysReq*	CTRL C
Print Scrn	CTRL C
Break	CTRL SPACE
Pause*	CTRL SPACE
Scroll Lock	CTRL F5

* These keys only available on some PC keyboards.

The interpretation of Insert as ALT ENTER is particuarly useful to users of TK2 and/or Hotkey2 as both of these use ALT ENTER to activate their last command recall function. Thus, you can 'insert' the previous command!

The interpretation of Home, End, Page Up and Page Down as ALT + cursor key is of benefit to Minerva users, and those who use Editor or Perfection. In these circumstances, Home and End move the cursor to the beginning and the end of the current line respectively. Page Up and Page Down do exactly what they say!

Pressing ALT and backspace is another useful combination as, even in Quill, it clears everything to the left of the cursor on the current line. ALT delete perfoms the complimentary function of deleting everything beneath and to the right of the cursor, again on the current line.

Falkenberg has decided to stay consistent with the QL on the effect of shifting keys, i.e. SHIFT 2 gives the at symbol (@). This is worth mentioning as many PC keyboards

have this labelled as double speech marks. Also effected by this are the keys '3' (which shifted is the sharp sign (#) and not the pound sign (£) as marked) and the single speech mark (which gives double speech mark (") when shifted and not the at symbol (@) as marked). The key marked with the sharp sign on a PC keyboard actually gives the pound sign unshifted, but does give the tilde (~) when shifted as marked. The final key affected in this fashion is the key just above TAB and to the left of '1'. What this is called I have no idea, but on its own, or with SHIFT it gives the sharp sign.

Pressing CTRL F5 on the PC keyboard will have no effect - Scroll lock must be used instead. If a screen freeze is produced through means other than pressing Scroll Lock, i.e by TK2 during a long directory listing, the Scroll lock LED will become out of synch with the action of screen freeze. The same can happen with the Caps Lock LED. In both cases, pressing SHIFT and Scroll Lock (or Caps Lock) will change the status of the LED without the QL recognising that 'lock' status has changed. This enables you to put the LEDs back in synch.

A keyboard-based reset has been introduced. Pressing the keys CTRL ALT and DEL results in a complete hardware reset, just as if the reset button on the right of the computer had been pressed. This includes a new memory check, unlike the Minerva CTRL ALT SHIFT TAB which skips the memory check.

The interface also has an internal key buffer, which allows the input of up to 55 characters. This is especially useful where keyboard input is either slow or suspended altogether.

Because the operation of the interface is effectively inbetween the keyboard and the QL it is totally invisible to any peripherals or software and so it is totally compatible with everything.

Before I fitted this interface I used the Schon PC style keyboard interface. I consider this product to be a great improvement. This is largely due to my being able to choose any PC keyboard I want. Compared to the original QL keyboard, £75 is a small price to pay to be forever rid of it. The response time of the QL to keyboard input is unaffected and I have not noticed any keyboard 'bounce' problems. The best thing I can say about the interface is that I use the PC keyboard totally oblivious of the work it is doing.

One small point:- occasionally a reset results in an unresponsive keyboard. This is not really a problem as a second reset will clear things up.

A final note:- users who have either an internal RAM expansion or the QIMI mouse interface need to purchase the externally fitting interface as these devices take up some of the room that the interface needs. My QL has Minerva, Phil Gaskell's Real Time Clock and the QPower Regulator internally fitted in addition to the QL-Keyboard-90 interface with no space problems. The interface, whether internally or externally fitted, will not interfere with the physical attachment of any external expansion board (eg TrumpCard).

All in all, this interface is a great buy.

<div align="center">A. J. P. White</div>

P.S. - I believe, but I am not certain, that TK Computerware will undertake to fit this interface for users who are worried about doing it themselves. Check with them first.

P.P.S. - Contary to the review in Sinclair QL World (February 1991) I am informed by TK that the interface cannot be purchased in a form that just plugs into the rom socket.

MEDIC BOARD NOTES

by Tony Firshman

I now have circuit diagrams (send SAE and 20p).

I have just repaired a Medic board with a very interesting mod. It has a 64k EPROM (27512) to replace the Medic 2764 with 3 ROMs on board at C0000,C4000 & C8000. One more slot at CC000 is available. This only works with JS/MG ROMs (Earlier versions would need code in the first slot to initialise the remaining 3 slots and itself, due to a well-documented QDOS bug). The circuit changes are:

Piggyback IC 74LS02 on IC 25 with p7 and p14 soldered through to p7 and p14 of IC25 for power. Remaining legs splayed out and narrow portion of legs cut.

Following IC legs are cut:

IC17 - pins 10 and 12
IC43 - pin 5
IC18 - pin 6

Cut pins 26/27/1 off a 28 pin socket (NOT the conventional socket but turned pin socket as used for the existing EPROM with round strong pins. VEROSPEED 19-2183L [on 0703 644555] is ideal but min 10 at '8.51! or Farnell [0532 636311] 170-119 at 68p although they may be trade only and have minimum order value), file smooth, cover with insulating tape and fit in IC16 (EPROM) socket. Cut top of ventilated part of Medic case and a section from the vertical part to allow easy removal of the piggyback EPROM without removing the case (if you are lucky enough to have a case!).

Following connections made (to the LS02 itself where legs are cut - I used mica insulated VEROwire with pen):

```
LS02        p1 ---- IC43 p5 ----- IC18 p6
on IC25     p2 ---- LS02 p13
            p3 ---- LS02 p4
            p5 ---- LS02 p10
            p6 ---- LS02 p7 ---- LS02 p11
            p12---- IC10 p14 ---- IC16 p26 (A13) } Connections to IC16
            p8 ---- IC10 p16 ---- IC16 p27 (A14) } are to edge of new
            p9 ---- IC10 p18 ---- IC16 p1  (A15) } socket holes on top.

IC17        p8 ---- p10 ---- p12
```

This worked first time - but has to a job for the brave! I take no responsibility for dead Medics! I could offer an EPROM copying service for callers, but for own use only and would need to see original roms.

ICs 21/22/23 are buffers for the floppy connector, and are the only casualty if the connector is put in the wrong way round. 'Not I' you might say - but I have repaired 3 Medic boards damaged this way! Medic deviously fitted the ribbon cable on a lot of plugs the wrong way - making it more logical to connect backwards!

p8-p10 uses QL transformer. I find the Grundy power supply ('20 or '15 part exchange from me) with its own heatsink copes with this quite happily (BBS has been running for 9 months!)

p9-p10 uses Medic 10v unregulated via pins 1-4 of floppy connector.

p4-p1 selects 256k (ICs 27-34)
p4-p3 selects 512k (ICs 27-42)

p4-p2 selects zero ram (I assume – have never seen this configuration)

Some boards had the wrong 64way edge connector with a short extension. OK without the case, but with case fitted should extend 6mm. The wrong connectors work sometimes but disconnect very easily. Easy to see the problem if the keyboard is removed.

TR1 (2N2369) disables the QL main board when external memory is accessed. I have found two dead Medic boards that were cured by changing it.

DIRECTORY DEVICE

Directory-devices ?

Directory-devices are all devices which allow the storing data with a name (for instance MDV, FLP, RAM, WIN, FDK..). Many programmes (even pointer driven ones) can't find out which devices are connected to the QL. Especially for a pointer driven programme it is nice to select also the device with a mouse, so I wrote a small routine which will find all devices. This little programme could be integrated in all programmes and it also works on the MINERVA.

Here's the nice little programme:

```
100 REMark 163840 is HEX("28000")
110 sysvar=163840
120 REMark if ID <> HEX("D254") then the systemvariables are at
130 REMark HEX("30000") , for MINERVA
140 IF PEEK_W(sysvar)<>-11692 THEN sysvar=196608
150 REMark Pointer to linked List of directory device driver
160 ad=PEEK_L(sysvar+72)
170 REMark repeat until all drivers will be found
180 REPeat loop
190    REMark pointer to lenght of devicename
200    ad1=ad+36
210    REMark length of name
220    laen=PEEK_W(ad1)
230    REMark print all characters of name
240    FOR i=2 TO laen+1
250       PRINT CHR$(PEEK(ad1+i));
260    END FOR i
270    PRINT
280    REMark next entry in linked list
290    ad=PEEK_L(ad)
300    REMark if pointer=0 then end of list
310    IF ad=0 THEN EXIT loop
320 END REPeat loop
```

So make your programmes simpler to use.
Have fun with it

Ralf Biedermann

SUPER TOOLKIT II
PT III

SuperToolkit II written by Tony Tebby
Available from Care Electronics, 800 St. Albans Road, Garston, Watford, Herts, WD2 6NL
Price: £24.15 (+£2.30 p&p)(either as EPROM or configurable mdv)

6 SuperBASIC Programs

6.1 DO

DO is a command for executed a SuperBASIC command file, that is a file containing unnumbered BASIC statements. Thus, using the example from 5.5.3 above, the command

        DO print_cmd

would perform the three spooler commands contained within the file. The advantage of the DO command being that the current SuperBASIC program is unaffected — it would be lost if one used LRUN. Any block commands within a command file must appear on a single line eg

        FOR n = 1 TO 10 : PRINT n
        REPeat read : INPUT a$: PRINT a$, CODE (a$)

would be an acceptable file, whereas

        FOR n = 1 TO 10
          PRINT n
        END FOR n
        REPeat read
          INPUT a$
          PRINT a$, CODE (a$)
        END REPeat read

would not. Attempt to LRUN such a file would lead to the error 'not found'. This refers to the loop control a which only exists in the line of the definition. It is, of course, acceptable to use either upper or lower case for keywords and use the normal abbreviations. **Note** the warnings at the end of 6.1 in the TKII manual.

6.2 Default Directories

The normal BASIC filing commands have been modified to use the default directories. In addition the LOAD command will look for a file in the program default if it does not locate it in the data default directory. An overwrite variant of the SAVE command, **SAVE_O** has been introduced that works in the same manner as other overwrite commands.

7 Load and Save

This section refers to the loading and saving of binary files ie LBYTES and SBYTES for resident procedures and EXEC, EXEC_W and SEXEC for transient programs. SBYTES and SEXEC have been modified in the same way as other commands that write to files (ie prompt appears if file already exists) and the overwrite variants have been introduced.

A new command, **LRESPR**, has also been introduced which combines the functions of RESPR, LBYTES and CALL. Thus

        base = RESPR (file_length) : LBYTES file, base : CALL base

can more simply be performed by typing

        LRESPR file

With the latter it is not necessary to explicitly find out the length of the file. As with RESPR, LRESPR may only be used if no jobs other than BASIC are running on the QL.

8 Program Execution

This section is concerned with the commands for executing compiled programs which run on the QL as jobs. This formerly consisted of the two commands EXEC and EXEC_W. These have been modified and made synonymous with new versions: **EX** and **EW**. Another command, **ET** has been introduced which loads a program in to memory but returns control to BASIC before starting the job. The EX command is explained further to illustrate the new facilities provided by all of these commands.

8.1 Single Program Execution

Ex may be used in the same way as the standard EXEC command in order to start a job on the QL:

> **EX program**

The command will look for the file on the program default directory. In addition, the program may be passed a parameter string. As an example of use I shall refer to a commercial program Master Spy editor. This program may be invoked as follows

> **EX ms;flp1_boot**

This command executes Master Spy (which I have renamed to ms on my working copy) which loads the file flp1_boot and presents it ready for editing. This feature was made available on Master Spy (version 1.7 and above) as a result of my writing to ARK to ask if it was available. In less than a week I had a response in th form of a newly written version which could accept a parameter string! Excellent service.

A further feature of the EX command is that file name (or channels) may be passed to a program for use as its standard input and output. BASIC programs compiled using Supercharge cannot be passed input and output files perhaps Turbocharged programs can, I do not know. However, it is easy to write a Pascal program (I use Prospero's ProPascal and GST's linker) to accept file names for input and output channels - this is a standard feature of Pascal. Prospero's Pascal also makes it possible to read a parameter string easily. Perhaps other QL Pascals allow this as well but the implementation will differ I expect. Below is an example Pascal program which should be quite easy to follow for anyone who is familiar with SuperBASIC. Comments are enclosed between curly brackets.

```
PROGRAM mul2 (input, output);

VAR
  param : string [20];          {like DIM param$ (20)        }
  in_num, out_num : real;

BEGIN
  REPEAT
    getcomm (param);            {read the parameter string   }
    writeln (param);
    readln (in_num);            {equivalent to INPUT a       }
    out_num := in_num * 2
    writeln (2 * in_num);       {equivalent to PRINT 2 * a    }
  UNTIL in_num = 0;
END.
```

This program simply reads in numbers and writes out double the number. If the program was invoked using **EX mul2_bin** (the file mul2_pas is passed to the compiler which produces mul2_rel [the extension .obj would be used on VMS and MS-DOS systems] and then the linker processes this file and produces mul2_bin [.exe under VMS and MS-DOS])then the numbers could be typed in at the keyboard and the answers would be printed to the

screen. Because no parameter has been passed only the numbers would be displayed on screen. However, the same program could be invoked as follows:

```
EX mul2_bin, in_dat, out_dat; 'in_dat * 2'
```

Mul2 would have to be located in the program default and in_file in the data default directory. If in_file contained the following lines:

```
2.7
-3.34
10.6
0
```

Then the file out_data would be produced in the data default directory containing the following lines:

```
in_dat * 2
 5.4000000E+00
-6.6800000E+00
 2.1200000E+01
 0.0000000E+00
```

The file out_dat will be overwritten automatically if it already exists. **Note** the numbers may be easily formatted so as not to use scientific notation, this is merely the default.

The same results could be acheived by passing channel numbers rather than file names:

```
OPEN_IN #3, in_dat
OPEN_NEW #4, out_dat
EX mul2, #3, #4; 'indat * 2'
CLOSE #3 : CLOSE #4
```

The Prospero Pascal compiler and the GST linker also accept parameter strings. The compiler uses the parameter string to pass the name of the Pascal program and flags indicating various options for the compilation. Likewise with the linker one passes the program name and the name of the file containing the linker directives.

The parameter need not be a string constant: it could be a variable eg

```
file$ = flp1_boot : EX ms;file$
```

8.2 Filters

EX also allows a series of programs to be executed that work together to process a stream of data, the output from one program being passed to the input of the next. The situation is analogous to a production line. In the TKII manual it explains that a series of programs (or filters) could be executed as follows:

```
EX uc, fred, TO lno TO page, ser; 'File fred' & date$
```

Such a series of programs could be easily written in Pascal but the string handling is sufficiently different from SuperBASIC so as to make the example of little use. Instead, consider a simpler set of programs:

```
EX add3_bin, in_dat TO mul2_bin, out_dat; 'Numbers'
```

Mul2 is the same program as listed above. The output from add3 goes to the input of mul2 and the output of mul2 goes to the file out_dat. The file out_dat will have the heading 'Numbers'. The program add3 is as simple (in fact simpler since it does not

take a parameter string) as mul2:

```
PROGRAM add3 (input, output);

VAR
  in_num, out_num : real;

BEGIN
  REPEAT
    readln (in_num);
    out_num := in_num + 3;
    writen (out_num);
  UNTIL in_num = -3;
END.
```

This program reads a series of numbers and writes the values plus three. It stops when it reads the number -3, this will have three added and be passed to mul2 which stops when it read the number 0. So, they stop properly together. If any program in the chain failed then the whole series of jobs involved would be removed.

So, suppose that in_dat now contains the following lines:

```
2.3
-3.6
10
-3
```

The job add3 (the job name is derived from the name on the PROGRAM statement in the Pascal program) will read this file and pass the following numbers to mul2:

```
 5.3000000E+00
-6.0000000E-01
 1.3000000E+01
 0.0000000E+00
```

Mul2 will read this numbers and produce the file out_dat:

```
Numbers
 1.0600000E+01
-1.2000000E+00
 2.6000000E+01
 0.0000000E+00
```

The means of communication between these two programs is via a pipe. If in_dat is a much bigger file (ProPascal is very fast) say, a thousand lines then while these programs are executing inspection of the channels menu in QRAM shows that there is a pipe associated with both of the programs.

Each of the programs in the chain may have many other channels open and use the screen and keyboard as well as other files and devices. However, if using software such as QRAM it is important to remember that if the programs in the chain are competing for the screen then one will be suspended this will cause the chain of programs to fail (the first program in the chain may be suspended and this will suspend the chain of jobs once the pipes have been emptied). With the Pascal programs as described the programs will fail even though output is not sent to the screen. This situation may be remedied by using the Unlock utility supplied with QRAM.

I would think that it would be possible to write similar programs in FORTRAN, in which case unit 6 of one program would be attached, via a pipe to unit 5 of the next. C also has standard input and output which I am sure would accept pipes (on a full

implementation of the language).

COMPARISON WITH OTHER OPERATING SYSTEMS

	QDOS	VMS	MS-DOS
Example wild card name	flp2_Pacal__pas	DUA1:[Pascal]*.pas	A:\Pascal*.pas
Directory (1)	DIR, WDIR, WSTAT	DIRECTORY/qual	DIR
Device stats	STAT flp1_	SHOW DEVICE DUA1:	(?)
File deletion	DELETE a_pas WDEL _pas	DELETE a.pas;* DELETE *.pas;*	DEL a.pas DEL *.pas
File copying	COPY a TO b WCOPY _pas to _bas	COPY a b COPY *.pas *.bas	COPY a b COPY *.pas *.bas
Background printing (2)	SPL, SPLF	PRINT	N/A
Renaming files	RENAME a TO b WREN _bas TO _pas	RENAME a b RENAME *.bas *.pas	REN a b REN *.bas *.pas
Execute (3) command file	DO setup_cmd	@setup(.com)	setup(.bat)
Execute program (4)	EW add3_bin EX add3_bin	RUN add3(.exe) RUN/DETACHED add3	add3(.exe) N/A
Redirect i/o (5)	EX add3_bin, in_dat, out_dat	DEFINE/USER SYS$INPUT in_dat DEFINE/USER SYS$OUTPUT out_dat RUN add3	
			in_dat<add3>out_dat
Filter (6) processing	EX add3_bin, in_dat TO mul2_bin, out_dat		

1   As with all VMS commands, DIRECTORY can accept many different parameters which will give output varying from one word per file to one screen per file.
2   MS-DOS cannot perform background printing. The setting up of large buffers would give appeearence of background printing.
3   VMS and MS-DOS have default file extensions for various file types. Provided the default file extension is used then they need not be appended when using commands that operate on a particular type of file.
4   MS-DOS cannot multitask.
5   VMS would require these three commands to be entered one after the other.
6   Through system calls in the program source code it is possible to set up inter-program communication under VMS - I don't now how exactly but it certainly isn't as easy as under QDOS. This requires multitasking and this cannot be acheived under standard MS-DOS - may be possible with additional software eg Quarterdeck. The only other operating system that I know handles filter processing as easy as on the QL is Unix.

Stephen Bedford

POINTER UPDATES

A brief look at the changes to Qptr and Qsup.

Qptr 0.21, 3rd revised edition of the manual, printed under license of Qjump by Jochen Merz software.

Qptr has not really changed much. There was a great opportunity for change here that was missed. The reply to that criticism may be either (a) sales of Qptr wouldn't have covered the costs or (b) it was only a reprint, not a revision.

One welcome change is the format from a spiral binding to an A5 ring binder. Now future changes and notes are easily inserted. It is a bit big for a Jochen Merz style binder so it may be a good idea to scrounge an A5 lever arch ring binder and 300+ ring reinforcements.

I quickly compared the new Qptr with Qptr second edition. The MKPAT keyword is defined (it was previously defined on an add-on slip that I kept on losing). There is a new WMAN vector, $70 WM.UPBAR Update pan/scroll bars. The list of changes to the Pointer Toolkit (filename 'Qptr') are listed, and the current version, 0.07 is on the disc. The later changes to Wman (up to 1.34) and PTR_GEN (up to 1.40) are also listed.

There is a new section in the back that details the Qjump CONFIG format. This has not changed since I last saw it. There is no explanation of CONFIG_MAC. There are two extras macros, 'mkcf.apo' and 'mkcfxstr'. There is 'Config_mac_demo_asm' which shows most of the macros & config types off. The GST Macro assembler is needed.

The Qptr CONFIG files are of little use to the SuperBasic programmer. As Oliver Fink's nice little 'BasConfig' utility is public domain, I wonder why it didn't end up on the Qptr disc.

Here is a little job that can be CONFIGured:

```
* SetKBD_asm (C) Ian.R.Bruntlett 10th March 1991

INCDIR    setstr flp2_
          section prog
          include [INCDIR]_qdos_sms
          include [INCDIR]_keys_k
          include [INCDIR]_config_mac
          include [INCDIR]_keys_sys
          include [INCDIR]_keys_err

          bra.s job
          dc.w   $5475,$6E64,$4AFB
          dc.b   0,25,'Set System keyboard rates',0
job
          moveq    #sms.info,d0
          trap     #do.sms2
          move.w   cf_ardel,sys_rdel(a0)
          move.w   cf_arfrq,sys_rtim(a0)
          moveq    #sms.frjb,d0
          moveq    #sms.myjb,d1
          moveq    #0,d3
          trap     #do.sms2
          mkcfhead {System keyboard rates},1.00
          mkcfitem word,'D',cf_ardel,,,{delay before auto repeat}
          mkcfitem word,'F',cf_arfrq,,,{frequency of auto repeat}
          mkcfend
cf_arfrq dc.w    $2
cf_ardel dc.w    $1E
```

end

The Qjump programme CONFIG finds the header <<QCFX>>01 and the title, all of which are defined with the mkcfhead (MaKe ConFig HEADing) macro.

My Config blocks are simple - I define each item with mkcfitem (MaKe ConFig ITEM) giving a type of word, a select key, a relative pointer to my item, no pre-process, no post-process, name of the item.

The Config block is then ended with mkcfend, 'MaKe ConFig END'.

The Config facility is a great idea and Qjump should be congratulated for it. Hopefully programmers will make even more use of it. Config can be run on an unexpanded machine, does not require PTR_GEN or WMAN so there is no excuse for programmers not to use it!

The job that is listed, SetKBD, will be avaiable from Richard Alexander on one of his PD discs. If the Quanta library starts accepting progs again, it'll end up there too. It simply finds the system variables and sets the system keyboard rates according to the configured values. Then it removes itself.

SetKBD is useful only if you use a programme that messes around with the keyboard rates (SPY used to - I don't use it though, it may have changed). It might be useful on a HOT_LOAD though as if some prog does put silly values into the keyboard rates, it might be hard to type the command (EXEC_W flp1_SetKBD_exe) to run SetKBD.

Qptr has a nice Paint programme that always seems to get clobbered by changes. Here are the current clouts that have gone Paints way:

Pointer Interface 1.39 Window manager   1.33
Drawing (ie move cursor & press space) still works.
Drawing lines fails - press space, move pointer, press space and no line is drawn.

Pointer Interface 1.41 Window manager   1.34
Drawing (ie move cursor & press space) no longer works.
(drawing is blotchy).
Drawing lines still fails.

The Qptr programme 'demo_bin' has not been changed at all, not even to give an example of the use of scroll bars in menu sub-windows.

There is other Qptr PD floating around - Tony Tebby was collecting examples of the use of Qptr written by other peoplem, with the eventual intention of distributing them on disc. Another missed opportunity - the examples could have been put on the disc - there were 744 sectors free on my copy.

If you already have a copy of Qptr, it might be a good idea to wait a bit to allow time for changes to filter though -'Paint' becoming usable, more demos to appear, 'demo_bin' using pan/scroll bars.

Qptr costs £29.50 on disc to new users, old users may upgrade for £13.50.

A quick look at Qsup.

Qsup is a collection of utilities, QSYS1 & QSYS2, combined and sold for '26. It is rather useful.

Thing II toolkit:

A series of SuperBasic commands to load & remove things, execute them and give information on things. If you have ever wanted greater access to things, here is possibly the only thing toolkit around. It is good. All we need now is the ability to include executable things in an EX job pipeline and Things will come of age (this should be done by updating Tk2, it is not a criticism of the Thing toolkit). If you are not too sure what a Thing is, here is a definition: "The thing system is a linked list of named resources that may be used by programmes in the QL in an ordered manner". Not exactly everyday conversation.

TRA utilities:

This improves the TRA facility. The TRA facility is simply a facility in JS & later QLs that allows bytes sent to the printer to be TRAnslated. My only criticism of it is that the TRA_LOAD command doesn't use the Toolkit Two data default. If you ever have to print German documentation, this toolkit is useful as a German translate table is included.

Discname:

This is a simple job to modify the 'format name' of a disc. It also writes a random number to the 'random check number' of the disc. This could be useful for software librarians who use Ralf Biedermann's Backup/Turbo copy. Using Ralf's disc copier, the discs end up with the same format name & check number - use Discname on each disc and even if you use the same 'format name', the disc will still appear to be different to Qdos as the 'random check number' is changed when a new 'format name' is written.

NotePad:

This is a silly little Thing. It is an editor for a data thing called pad_contents. You end up with a note pad in your QL. I prefer Qd3.

Addversion:

This is a job to add an empty Qjump config block to a file in order to give it a version number. I have never needed it.

PrinterPanel:

This is used to set various things on printers. It needs to be configured to use ser instead of par. I have one gripe with this programme - why on earth does it not look at the Toolkit Two destination device? That is a minor complaint. The layout is rather nice.

MultiButton:

Display free memory, time, capslock status, TRAnslate status, mouse hotkey, current data default. It also allows you to change everything except the free memory figure.

MultiPick:

This is used to pick many jobs together according to certain criteria. This is equivalent to a Qptr PICK that does not have to be given a job id but can be given a job name or priority.

SetClock:

This is a little portion of MultiButton that brings up a little clock display. It is

not perfect - if you change the month, sometimes the day does not stay the same. But I have set my boot file up to check the date - if it is out of a certain range then SetClock is run automatically. This is useful when the internal clock gets clobbered by software crashes etc.

DEFAULT_rext:

This defined a Thing of useful sub-directories that MultiButton would offer when you modified the Tk2 defaults. This has probably been succeeded by Menu_rext which offers that and more.

UPDATES PRESENT IN Qsup [1.14] Systat v1.00:

This seems to be an attempt to use the Button Frame and provide the facilities of MultiButton. When a pointer is moved over its windows, the pointer becomes a no-entry sprite. It provides a 'memory free figure', a CAPSLOCK indicator, TRAnslate indicator and data default display which seems to be updated. It is more compact than MultiButton (also in Qsup) as it does not offer time setting, ctrl-c, setting the mouse double click stuff key, access to the programme/destination defaults or the ability to set all three of the defaults.

This prog probably came about because many of these things could be achieved from other progs (Qsup's setclock, Qpac2's buttons and its Pick, Sysdef menus).

There are updated versions of NotePad and PrinterPanel which now use the Qpac2 button frame.

QD3 - this is not a review.

I have Qd3 and I like it. Unfortunately it demands the presence of menu_rext. I have two memory configurations (constellations?) when I boot, (1) minimum and (2) full. So now my boot is further complicated with the clause 'use Qd2 is menu_rext isn't loaded and Qd3 if it has'.

What of Qd3? It is great for modifying source code (no justification of lines), is fast (better than MetaComCo Editor - use a prog that load & saves at a decent speed and can handle blocks properly). I have been too busy to delve into it too much but the F10 system interface has been implemented, a line/column display is available, overwrite/insert text mode and the general display is much better than Qd2. The £10 I spent on the upgrade was more value for money than my Qptr upgrade. It costs £36.50 brand new which is 50p cheaper than Qd2 when I bought it!

Ian R. Bruntlett

DIARY

Hot news this - the QUANTA London Sub-Group have changed the date of their Workshop, due to the venue double-booking their hall! So, the date is SUNDAY 9th of June, 1991 (I put the year in as these mags have a long "shelf" life.) The hall will be open from 10.00 a.m., but traders can arrive from 8.30 a.m. (on a Sunday - do such times exist?) The venue remains the same - The Polytechnic of North London, Holloway Road, London N19. Further details from Jeremy Davis on 081-863-1631.

Also in London, on May 18th, will be the All Formats Computer Fair at the New Horticultural Hall, Greycoat Street, Westminster. Admission will be £3.00. Have to confess that we shan't be attending both of these due to the costs involved. As the QUANTA do has free stalls for us traders and doesn't cost £3.00 for the punters, I think I'll be watching the Cup Final in comfort at home, rather than flogging a dead-horse in Victoria.

NOTES ON USING PRINTERS

HOW DO YOU PERSUADE YOUR PRINTER TO DO WHAT YOU WANT ?
BY BRUCE NICHOLLS

INTRODUCTION

This article is based on my experiences of trying to get several printers working with the software for the QL. My first printer was the honourable Brother HR5 thermal printer, it was a good first choice as it is very portable, robust and above all cheap. The only problem was that the thermal ribbon output all depended on the quality of paper you were using. The printers life came to an abrupt end when travelling between Nottingham and London with me via public transport, as the next time I went to use it it refused to print anything out. While trying to figure out what was wrong with the printer I found out how easy it is to permanently render the serial ports of the QL useless. After the QL came back from the repairers I decided to invest in a new printer, looking around in different shops and through articles in magazines I decided the STAR LC10 was the printer for me.

The Star LC10 printer is very versatile, not only can it produce draft quality print (the lowest print quality and fastest to produce) but also 4 NLQ (Near letter quality) type styles mixed together with 5 print pitches (The number of characters printed per inch ranging from 10 to 20) and 4 character sizes (Double width, double height, double width and double height, quadruple width and quadruple height). The above can also be mixed with other varieties of print such as italic (slanted), emphasized (adds extra thickness to vertical strokes), double-strike (adds extra thickness to horizontal strokes), underlining, overlining, superscript (characters printed on the top half of the line), subscript (characters printed on the bottom half of the line) and downloaded characters (characters redefined to suit specialist needs such as mathematical symbols). The printer also enables you to produce different graphic dumps in dot densities ranging from 60 dots per inch to 240 dots per inch. The printer is also Epson and IBM compatible which means once set up properly it will work with any software that supports those printers (eg Quill,Abacus etc.).

WHERE DO I START ?

The first question is whether you have a correct lead to connect the printer to the QL. The QL is fitted as standard with a serial printer port (also known as an RS-232-C) which is one of the standard printer interfaces on the market, Unfortunately the standard STAR LC10 is fitted with a parallel printer port (also known as a centronics interface) which is not compatable. To be able to connect the printer to the QL you need to purchase a centronics interface (One source of supplier is Miracle whose interface can be plugged into SER1 or SER2), this enables you to plug in one end into one of the serial ports at the back of the QL and plug the other end of the lead straight into the printer interface without any wiring (which could be necessary , and frustrating to do, with a serial lead).

To enable the QL and printer to understand each other they must be sending and receiving information at the same speed .This is controlled by the BAUD RATE (The number of characters per second that are being transmitted and received). The BAUD RATE of the printer is 9600 which coincides with the QL's default rate of 9600. If there is any doubt in the BAUD RATE of the QL, the QL superbasic command BAUD (rate) (where rate is 75, 300, 600, 1200, 2400, 4600 and 9600) will reset the QL's rate.

If Superbasic is to be used with the printer then the port that the printer is plugged into must then be assigned to a channel device number not being used . The command is shown in full below with comments after.

OPEN (channel number), SER (port number) (parity type) (handshaking status) (protocol)

eg. OPEN #3,SER1ehr
Channel number is usually higher than 2 as superbasic already uses 0 to 2.

Port number is the number of the port that the printer is plugged into (1 or 2), the wiring of the two ports are different and usually the printer is plugged into SER1 (if using Miracles centronics adapter it can be used without modification in both ports) for more information on the differences see the USER GUIDE section Concepts reference Communications RS-232-C.(default is 1)

Parity type is usually set to what the hardware connected is expecting (see QL USERS GUIDE section Information reference QL Programs Printers for a full description). It can be one of four statuses (default is no parity) :-

             e - even
             o - odd
             m - mark
             s - space

Handshaking is used to control when the software sends data to the hardware. If it is h, the software will only send the data when it has received a command from the hardware saying it is ready to receive data. If it is i, the software sends data without waiting for the hardware to send a ready signal (default is h).

Protocol is used to control the format of the data that is sent. If it is r it sends unmodified data, if it is z it adds CONTROL Z to the end of the data sent(this enables Superbasic to detect EOF) and if it is c it adds CONTROL Z to the end of the data and converts ASCII 10 (QDOS newline character) to ASCII 13 (carriage return{CR}). The default is r.

If SER is just used Superbasic defaults to using SER1hr (8 bit no parity with handshake and sending unmodified data)

To test the connection out you could use the following few lines of Superbasic:

```
10 BAUD 9600
20 OPEN #4,Ser1   (or Ser2)
30 PRINT #4,"Test of correct connection and baud rate"
40 CLOSE #4
```

This works fine on the STAR LC10 but if your printer does not respond try altering the parity or handshaking.

WHAT ARE DIP SWITCHES ?

DIP (Dual In-line Package) switches are small on/off switches located some where on the printer that alter various printer functions to match your requirements. By changing the switches position you can alter the characteristics of the printer to match the software or paper length. The switches should only be changed when the power is off as the switches are only read at power-up. Next are tables listing the functions of the DIP switches and the settings for the STAR LC10 I use together with the Psion and other programs, an explanation of each function follows the tables and should be relevant to other printers.

LOOSE ITEMS

Please note that Chris Adams' QL World/ User index - of which we now have the very latest edition - requires a memory expansion of at least 128K, due to the size of the archive_dbf files.

COCKTAILS WAITER - CORRECTION

Dilwyn Jones Computing do provide a printed sheet of instructions. Sadly this was not made available to the reviewer due to an oversight by the Editor. Additional sets of recipes will also be available.

DIP SWITCH SETTINGS FOR THE STAR LC10

SWITCH	FUNCTION	ON	OFF	SETTING
1 - 1	Page length	11 inches	12 inches	ON
1 - 2	Auto CR	Yes	No	OFF
1 - 3	Orator lower case	Small caps	Lower case	OFF
1 - 4	Auto sheet feeder	Inactive	Active	ON
1 - 5	Paper-out detector	Enabled	Disabled	OFF
1 - 6	Printer mode	Standard	IBM	ON
1 - 7	Character set (Std. Mode)	Italics	Graphics	ON
	Character set (IBM Mode)	Set #2	Set #1	ON
1 - 8	Auto LF	No	Yes	ON
2 - 1	Usage of RAM	Buffer	Download	ON
2 - 2				
2 - 3	International character set	(See Next table)		
2 - 4				

INTERNATIONAL CHARACTER SETS

COUNTRY	2-2	2-3	2-4
U.S.A	ON	ON	ON
France	OFF	ON	ON
Germany	ON	OFF	ON
England	OFF	OFF	ON

COUNTRY	2-2	2-3	2-4
Denmark *	ON	ON	OFF
Sweden	OFF	ON	OFF
Italy	ON	OFF	OFF
Spain	OFF	OFF	OFF

* Denmark/Norway when switches 1-6 and 1-7 are both OFF.

1-1: This changes the printers image of the length of paper that you are using   , 11 inches or 12 inches can be selected.

1-2: The printer will automatically perform a carriage return (CR) by moving the print head to the left margin after receiving a line feed (LF) instruction if this switch is on.

1-3: When the Orator type style is selected the style of the lower-case letters printed depends on the setting of the switch. If it is ON the lower-case letters are printed as small capitals. If it is OFF the lower-case letters are printed as lower case.

1-4: This is only set to the OFF position if you are using the automatic sheet feeder available for the printer.

1-5: If this is in the On position the printer will sense the end of the paper and stop printing about an inch from the end of the paper. If it is OFF the printer will ignore the end of paper sensor and print continuously after the paper has finished.

1-6: In the ON position the printer acts as though it was a an Epson LX-800 (Epson or Standard Mode). In the OFF position it acts as though it was an IBM Proprinter II (IBM mode).

1-7: If switch 1-6 is in standard mode (ie ON) and this switch is ON you can print italics. If the switch is OFF instead of italics you will get graphic characters substituted.

If switch 1-6 is in IBM mode (ie OFF) and this switch is ON the printer acts as having an 8-bit interface, which is the most common kind. If the switch is OFF the printer acts as having a 7-bit interface.

1-8: In the ON position the printer requires a seperate line-feed code (LF) to be sent for a line-feed, which is the most common. In the OFF position the printer does a carriage-return (CR) and line-feed (LF) each time it receives a carriage-return code.

2-1: In the ON position the printer uses its internal 4k of RAM as an input buffer which allows the computer to send data faster than the printer prints. In the OFF position the printer uses its internal RAM for storing new user definable characters and provides a one-line print buffer.

2-2 to 2-4 : These are used to select the international character sets and the combinations have been shown in one of the previous tables.

WHAT IS A PRINTER DRIVER ?

A printer driver is usually a program that can be modified by the user to suit a specific printer to allow another program to interact with a printer properly. The Psion programs are supplied with a printer driver (install_bas) which can be modified to a certain degree of flexibility. Following is an example of a Psion printer driver I have set up for use with the Star LC10 together with accompanying notes regarding the selections I have chosen.

```
DRIVER NAME       : STAR LC10
PORT              : ser1
                    (most commonly used port for a printer and also ser2 is used for
                    a connection to a modem)
BAUD RATE         : 9600
                    (baud rate specified for STAR LC10 printer)
PARITY            : NONE
                    (sends all ASCII codes from 0 to 255 to printer)
LINES/PAGE        : 66
                    (maximum number of printable lines on a page of A4)
CHARACTERS/LINE   : 160
                    (maximum characters printable across one line of A4 paper, this is
                    by using condensed elite which gives 20 characters per inch)
CONTINUOUS FORMS  : YES
                    (the printer is using continuous stationery)
END OF LINE CODE  : CR,LF
                    (this commands the printer to do a carriage return (CR) and a line
                    feed (LF) at every end of line)
PREAMBLE CODE     : ESC,@,CR
```

```
                          (every time a new document is printed it resets the printer and
                          performs a carriage return (CR), this is to reset any preceding
                          printer commands that are still in effect)
POSTAMBLE CODE      : CR
                          (every time a document finishes printing it returns the printer
                          carriage to the left hand side)
EMPHASIZE ON        : ESC,E
                          (turns emphasized printing on)
EMPHASIZE OFF       : ESC,F
                          (cancels emphasized printing)
UNDERLINE ON        : ESC,-,1
                          (turns underlining printing on)
UNDERLINE OFF       : ESC,-,0
                          (turns underlining printing off)
SUBSCRIPT ON        : ESC,S,1
                          (causes subsequent characters to be printed as subscripts)
SUBSCRIPT OFF       : ESC,T
                          (cancels subscript or superscript)
SUPERSCRIPT ON      : ESC,S,0
                          (causes subsequent characters to be printed as superscripts)
SUPERSCRIPT OFF     : ESC,T
                          (cancels superscript or subscript)
TRANSLATE1          : `,ESC,R,ETX,#,ESC,R,NUL
                          (enables a pound sign to be printed)
TRANSLATE2          : ,ESC,k,NUL,ESC,x,1
                          (instructs the printer to turn on the NLQ typeface Courier at the
                          point where a   character is found in the document)
TRANSLATE3          : ,ESC,k,SOH,ESC,x,1
                          (instructs the printer to turn on the NLQ typeface Sanserif  at the
                          point where a   character is found in the document)
TRANSLATE4          : ,ESC,k,STX,ESC,x,1
                          (instructs the printer to turn on the NLQ typeface Orator with small
                          capitals at the point where a   character is found in the document)
TRANSLATE5          : ,ESC,k,ETX,ESC,x,1
                          (instructs the printer to turn on the NLQ typeface Orator with lower
                          case capitals at the point where a   character is found in the
                          document)
TRANSLATE6          : ,ESC,4
                          (instructs the printer to turn italics on at the point where a
                          character is found in the document)
TRANSLATE7          : ,ESC,5
                          (instructs the printer to turn upright characters on at the point
                          where a   character is found in the document)
TRANSLATE8          : ,ESC,P
                          (instructs the printer to turn pica pitch on at the point where a
                          character is found in the document)
TRANSLATE9          : ,ESC,M
                          (instructs the printer to turn elite pitch on at the point where a
                          character is found in the document)
TRANSLATE10         : NONE
                          (left free for a code needed occasionally)
```

This is just one example of what can be included in a printer driver and I have
several others set up for specific jobs .

These range from producing large posters which use the printers ability to produce any
size of print up to Quad-sized to a printer driver designed   to show the maximum
amount of available characters on an A4 sheet of paper for use when printing large
spreadsheets from Abacus. With only the ten translate functions available you cannot
usually provide the greatest flexibility that a printer has to offer for use with the

PSION programs but there are several ways around this. The first is just to keep a set of printer drivers on your storage medium and then overwrite the printer_dat file that the psion programs will look for when printing a document with the translate codes you want to use. The other alternative is provided by a program held in the QUANTA library which modifies the original Quill so that when you ask for a document to be printed out Quill prompts you for a choice of printer driver to use.

HOME BANKER UPDATE

Further to the details of the Update to Home Banker Plus given in QLTR 4 I have now received my updated version of this program. As well as all the additional features mentioned in the review further options have been added.

When loaded there is now a main menu with three options:

        A. Transactions and Statements
        B. PIN Change
        C. Archive Data

A takes you straight to the main program.
B Lets you change the four-digit PIN number.
C This is the best improvement. It allows you to cut the size of your data files so that only the most recent transactions need be loaded.

The earlier data is stored in a separate file under the title of "data_monthyear_arc" i.e. Data archived up to the end of April 1990 would have the file name "data_0490_arc". The remaining data is still stored under the original file name together with the standing orders. Opening balances are automatically updated.

Now for the major drawback. Like version 3 it will not run on Minerva. I complained to Qjump about my original version and as instructed sent off a copy of it for amendment but it has never been returned. Yes I have used the bodge for QLiberator Runtimes on the Minerva disk. No I do not understand the instructions for amending the boot program in the Minerva Technical Guide. Far too advanced for me. What are all those RESPR,CALL and LRESPR if you have TK2? I need instructions in words of one syllable. My Minerva is Version 1.78. Help please as I am fed up of having to change my Trump Card to the JS ROM QL every time I wish to update my bank account.

Finally, I am very pleased with the Home Banker Plus program. I have been using it since the beginning of this year and the latest version has now dealt with all my minor criticisms except for one, I wish it would total the Standing Orders.

Home Banker Plus (Version 4.0) is available from DJW Software, 11 Pound Close, Bramley, Basingstoke, Hants, RG26 5BL (tel: 0256-881701). Cost is £19.95 and is available on disk only and will only run on expanded QLs.

(N.B. My error. I appear to have lost the name of the author of this piece. Could contributors kindly ensure that they append their name to anything they send in. Many thanks indeed.

GENERAL LEDGER

Business Accounts for the Sinclair QL
Published by SD Microsystems
PO Box 24, Hitchin, Herts, U.K.
Price: £19.95

Review by Michael L Jackson

Though numerous business accounting programs were produced for the QL over the past six years, at the present very few are being marketed by their original publishers. Major packages currently unavailable include 'QL Integrated Accounts' by Sagesoft and 'Trading Accounts' from PDQL. Fortunately, SD Microsystems of Hitchin still markets its Small Traders business software. The programs are also available by mail order from EEC Limited, who sell the Small Traders Pack, Invoicer and Stock Accounting from the same publisher. As EEC regularly attend QUANTA workshops and some computer fairs, this could give potential purchasers the chance to assess the suitability of SD Microsystems programs before parting with their money.

GENERAL LEDGER

I have had access only to the General Ledger program, so I am unable to determine how well it integrates with the other Small Traders software. Therefore this review examines General Ledger as a stand-alone program rather than as part of a general purpose business suite.

At less than £20, General Ledger is one of the cheapest programs of its type, and the total cost of all the Small Traders programs is under £70. It is less expensive than some bank account programs for home users, and much cheaper than the original selling price of rival programs. However, programs such as 'Integrated Accounts' or 'Cash Trader' may occasionally be found at bargain prices, whether new or second hand. But it may be difficult to obtain any kind of support for these other than by pleas for help in QLTR, SQLW or QUANTA. I don't know what degree of support SD Microsystems offers to its customers, but inevitable it is bound to be better than that available from companies that have abandoned the QL or have ceased trading!

MINIMUM REQUIREMENTS

General Ledger will run on completely unexpanded QLs, i.e. those with 128K RAM and microdrives only. I would assume that even very small traders would soon acquire expansion RAM and/or disk drives if they were using their QLs for business purposes, but someone recording financial transactions for a club or charity may not wish to invest in extra hardware. I would prefer to see an upgraded program, perhaps "General Ledger Extra", for users of expanded QLs and Thors, but competent programmers could modify the software themselves (at their own risk and for their own use).

The program is written in Superbasic, which you can break into to examine the listing. It is not compiled, but uses the runtime version of Liberation Software's QLoad to speed loading. Once loaded it runs at the usual speed of Superbasic, though the program does not appear to be unduly slow in use. The manual explains that attempts have been made to trap user input errors, but that should a break occur the user should enter the Superbasic command 'GOTO MENU' (not 'RUN', which would lose all your input in the session!). By compiling the program it should be possible to include a greater degree of error trapping, as well as increasing speed of operation. On expanded QLs it would be feasible to include on-line help to supplement the on-screen prompts. However, it is only fair to review the program on the basis of what is supplied, not according to theoretical modifications which might suit me but not necessarily other users.

THE MANUAL

General Ledger is supplied with an A4 ten page manual. This seems small compared to the 208 page A5 manual provided with Integrated Accounts, but it used to sell at around £90 and in any case General Ledger is essentially equivalent to only the

Nominal Ledger of that program. Furthermore, nowadays there seems to be less need for QL software suppliers to produce a "mug's eyefull" in the form of a large manual, attractively boxed, to look nice on a shelf at Boots. As long as the manual adequately describes the use of the software, we should accept that economies will be taken to keep down the cost of programs. (Perhaps some manual writers are less verbose than others.)

Some very important information only appears on page 8 - how to create a working copy of the cartridge. SD Microsystems thoughtfully provide a clone program on the cartridge, though if you wish to use disks you have to add FLP_USE MDV to the boot yourself. The master cartridge is not copy protected and is not required when loading the program from the working copy.

USE OF THE PROGRAM

Operation of the program is by means of the main menu, offering the following options:

1) ACCOUNT CODES
2) DATA ENTRY
3) JOURNALS
4) TRADING, PROFIT AND LOSS ACCOUNT
5) COLUMN TOTALS
6) FILE OPERATIONS
7) YEAR TO DATE/END SUMMARY
8) DATE SORTING
9) START NEW ACCOUNTING PERIOD/RESET FILE
0) EXIT FROM PROGRAM

On using the program for the very first time, it is advisable to load the supplied SAMPLE file using option 6 and then requesting some of the report options, e.g. 3, 4 or 5. Having got the feel of the program, it can be customised for your business's requirements by means of option 1. Only 40 codes are available, some of which cannot be changed, and separate cost centres (e.g. MANUFACTURING, ADMINISTRATION, SALES, MARKETING, etc) cannot be used with this program (but the type of business likely to use it probably wouldn't need them). Option 1 is also used to customise the trading name and to define the printer port and baud rate (which some other programs do not let you modify). Having set up the program for your own requirements, use option 9 to enter the opening cash and bank balances.

The most frequently used option will be 2, Data Entry. This presents the user with two monitor mode windows, one with the 40 account codes and their descriptions; the other with a sub menu, as follows:

1 BANK RECEIPT
2 BANK PAYMENT
3 CASH RECEIPT
4 CASH PAYMENT
5 RESET VAT RATE
0 QUIT (this menu)

These sub options are fairly easy to use and allow an adequate description to be entered against transactions. Unlike the Sage Accounts program, data is not saved automatically but requires the user to select the file operations menu (or to respond to the reminder when quitting the program) and to choose suitable file names. Though this presents an increased likelihood of lost data due to hardware failure or operator forgetfulness it does allow you to divide the year up into user-defined trading periods, such as weeks, months or quarters. Owners of microdrive-only QLs will welcome this as it will keep file sizes small to speed loading and saving, and the program does allow the different trading periods to be merged for summary reports.

If you do make mistakes while entering data, these must be corrected by journals, or contras as this package describes them. Some accountancy programs and home finance packages allow the errors to be deleted, which would give your auditors a fit (take my word for it).

Slightly confusingly (for me) the Journals option is a reporting function giving details of transactions on screen or printer. The following reports are available:

1 BANK SUMMARY
2 LEDGER LISTING (audit trail)
3 BY ACCOUNT
4 VAT SUMMARY (if you are VAT registered)
5 RECEIPTS AND PAYMENTS
6 CASH SUMMARY

The other reporting options are described adequately in the manual and should be easy to use - if your printer is Epson compatible (a requirement of many QL programs).

INTEGRATING WITH OTHER SD MICROSYSTEMS SOFTWARE

The manual explains how General Ledger can be used with the other programs which are available to provide an all-round accounting system for small businesses. Sales and Purchase Ledgers can be bought to handle customer and supplier accounts (though these are included as standard by Sage); and Invoicing and Stock Control modules can be supplied.

As explained above, I have not yet had the opportunity to assess General Ledger in the context of a complete accounting system. Neither can I compare in detail it with rival packages other than Sage Accounts. I hope that in the coming months I will be able to remedy these two matters. In particular, I would like to compare the Small Traders system with the packages previously marketed by Eidersoft and Dialog.

CONCLUSION

I am not certain that the number of businesses using their QLs for keeping their accounts will be sufficient to persuade the bigger publishers to release new accountancy packages. Digital Precision mentioned the possibility of releasing such software in the small print in their advertisements of around two years ago, but nothing has ever appeared suggesting that the market was not considered viable. Traders (or clubs or charities) wishing to computerise their accounts using a QL are probably faced with the following choices:

a) writing something themselves, in Superbasic or some other programming language;

b) as a), but using Abacus and/or Archive;

c) buying one of the better home finance programs (and struggling with the limitations);

d) buying a copy of a program published by software houses that have long left the QL scene (and accepting the absence of back-up support); or

e) investing in SD Microsystems' software.

Only you can judge whether other choices are available to you and which one is to be preferred. However, I believe that General Ledger seems to represent reasonable value for money and is of potential use in a number of situations.

QL HOME BUDGET

Written by Joe Haftke
Published by Dilwyn Jones Computing,
41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, Cymru, LL7 3YT
Price: £20.00

RELAUNCH OF PACKAGE

This home finance package, recently re-released by Dilwyn Jones, was originally sold by PDQL. I believe the change of publisher will give the program a new lease of life, as Dilwyn has given it greater prominence in his advertising than it enjoyed previously and he attends computer shows up and down the country to sell, or just talk about, the software. So far this year I have seen Dilwyn at Leyland, Thetford, Portishead and Worthing, and Joe Haftke also attended the latter two - perhaps some others as well. This is a very good sign - author and publisher promoting their product with enthusiasm.

ACTION REQUIRED

I feel certain that Joe would agree that it is only worthwhile buying this set of programs if the purchaser is prepared to take positive action to benefit from them. They have potential financial benefits to those who make serious use of them. The Personal Income Tax Calculator and Capital Gains Tax Cost Indexation program may - at the best - help reduce your tax bill; it should take some of the hastle from filling in tax returns and may help avoid the need to pay a bank or accountant to do it for you. The Domestic Bills Budgeting System aims to assist your financial planning, which may allow you to operate an interest paying account specifically for payment of bills. (It should be noted that Home Budget is not a bank account type program like Home Banker. I had confused these two programs back in QLTR #3 because of the similar titles.)

THE PACKAGE

For this review I received a 3.5" disk with the two main programs, a "user-friendly" boot and all support files, plus an A5 size 20 page manual (marked 'provisional'). The manual may have been changed slightly by the time of publication of this review, but the programs appeared to be a finished product.

The manual is easy to read and covers the operation of the programs in reasonable detail. An index appears on page 14, but I would have preferred it as a contents page at the very beginning. The General Introduction tells the user what files are on the disc, and advises that a working copy be made and that the master be kept in a safe place. (A clone_bas program is included on the disc to make the copying process easier.) Some manuals seem to reserve such vital information for an obscure appendix!

Though the package as a whole requires no deep knowledge of accountancy, I would recommend that further guidance be obtained on use of the Personal Income Tax Calculator. Members of the Consumers Association receive an annual publication covering up to date taxation rules. In the past, this could be used in conjunction with Which? magazine's TaxCalc program for the QL, but as this is no longer produced the field has been left open to Home Budget. It may be useful to read the Which? booklet or a similar publication in conjunction with the J_TAX program.

The programs, J_BILLS and J_TAX, are written in Superbasic and compiled with QLiberator. They are designed to run on standard microdrive-only QLs but allow more accounts to be set up on expanded QLs. I tried the programs - successfully - with Minerva 1.82 but mainly tested them on an ordinary JS QL, with PS/2 keyboard fitted, which helped with input of numeric data. It is not essential to use the supplied 'boot' to load the programs. For instance, they may be started from ICE or operate within the QJump extended pointer environment, for instance using QRam or QPac. On an expanded QL, both programs can be loaded at the same time, though there will not be many occasions when this will be necessary. J_BILLS will be used monthly, but J_TAX probably only once a year (until you have got the tax return sorted out).

Inevitably, between typing up the articles for this mag and it finally hitting the streets, there's been some fresh info on what's happening in QL-Land. (Our apologies for the extended delay caused by our photocopier problems and for any defective copies)

QLAW SET-UP

Dr. Sohail Bhatti has circulated a questionnaire which we have inserted in this issue of QLTR. We hope you'll fill it in and return it to the address indicated as the future development of the QL, in part, depends on what sort of machine you say you want. Dr Bhatti expects that the first project QLAW will undertake is the creation of an agreed specification for a SuperQLone.

My pet project would be to consolidate the Minerva ROM with the runtime toolkits currently available (subject to copyright restrictions obviously, like the plug-in EPROM boards.) Self-modifying code would also have to be omitted. Wouldn't it be great not to have to load in Toolkits but have them on-board all the time? A degree of co-ordination and co-operation would be required, but a standardised expanded SuperBasic would be to everyone's advantage. Miracle's Gold Card copies the system ROM into fastRAM so it would all run quicker as well. A 256K system ROM is, in itself, no problem for 68000 processors, and with 2MByte RAM would still leave twice the available memory of any existing QL system. Note - the 68000 can address 16MByte of RAM.

Any SuperQLone specification would also have to address which graphics standards to use, as well as emulating the exisiting Modes 4 and 8. I suspect that PC emulators - perhaps card based, such as ATonce and similar on the ST and Amiga, would need a version of the VGA standard - 640 * 400 would fit neatly into 256K of video RAM, whereas 640 * 480 requires 300K. Such resolution would be useful, but would need to be able to handle at least 256 colours - with an option of 16 or 24 bit colour on add-on graphics boards. Add on a decent sound chip and MIDI, and you've got a hybrid ST/Amiga/PC/QL - well almost! Anyway this is all hypothetical at the moment, but users are advised to make their desires known about such matters.

QL LEISURE REVIEW

I've just been sorting out the files for this, and we are a few articles short of a decent issue. We simply need more articles, reviews etc. Do let me know if you can help with this. We can supply a review copy of any C.G.H. Services product to potential reviewers, if they can guarantee sending in a review to us.

MIRACLE GOLD CARD AND RELATED MATTERS

The 12Mz Gold Card has been dropped, - it was only ever intended as a stop-gap measure, leaving just the 16Mz version. Units are now shipping. No major problems reported so far, and any you come across Miracle will try and sort out a.s.a.p. With their resources committed to the development and production of the Gold Card, Miracle were unable to satisfy some orders for Hard Disks recently. However I can report that a new batch are in production and should be going out to those people who ordered them in the near future.

QL TECHNICAL REVIEW #7

We have enough material available to fill #7, but more is welcome so we can select the better and more topical items. In particular we'll print some more reviews of Dilwyn Jones' latest progs, a review of Text87, more SuperToolkitII, more on databases, a Gold Card review (or more) plus any urgent feedback from this issue. Probably a couple of Gold Card reviews as well. Deadline is August 1st for submissions. Advertising space is also available at £20.00 per A4 page. Deadline for adverts as per copy.

LEYLAND AND OTHER SHOWS

I don't know about other people, but we lost money on this. No fault of the C.G.H. crew, it simply wasn't properly advertised. This may be the last Leyland bash we attend, but if the local QUANTA group organise a workshop we'll try to ensure that we have a stall there and at other QUANTA workshops. As I'm limited in the amount of travelling I can do, volunteers to run stalls are most welcome. Commission can be paid.

HELPLINE PLEA

Andy Dean has written in as he is having problems with the copy of GST's QC "C" compiler that he recently bought at a knock-down price in the Tottenham Court Road. His copy compiles and assembles but fails to link the library file in the final stage - giving "Error 2A, error in relocatable binary file". He has copied all the files across to floppy, and the only one which seems corrupted is the QC_LIB file. If anyone owns a copy of the program and can let Andy have a copy of the corrupted file, he'd very much appreciate it and happily refund any postage costs. The file can be supplied on disk or mdv. Contact Andy on 081-459-7486 or write to him at 14 Fielding Avenue, Poynton, Stockport, Cheshire, SK12 1YX. Thanking you kindly.

MJOLNER - UNOFFICIAL THOR USER'S MAGAZINE

Malcolm Smith has sent me a copy of the second issue of his THOR users magazine. It has 12 A5 pages, photocopied. Contents include several letters from disgruntled or puzzled THOR owners - all with hardware related queries. There is a also a directory listing of a THOR "Esoterica" disk sent in by Simon N. Goodwin, diagrams of the THOR video, serial 1&2, keyboard and QL serial ports and Malcom's own Text87 boot program. Questions asked include - who, if anyone, can repair faulty THOR machines, does THOR International still exist form), how to get software to run with the THOR (e.g. QPAC2, Desk Top and Professional Publisher, Peintre, and so forth) on the various THOR ROMs. Note - there is no suggestion that the problem lies with the software necessarily, especially as different THOR ROMs have different problems! A subscription to Mjolner will cost £5.00 for 4 issues, payable to Malcolm Smith, Statsrad Ihlensvei 66b, N-2010 Strommen, Norway. I wish Malcolm the best of luck with this project. Malcolm has also let me know that Urs Konig (of Cowo Electronics in Switzerland) is committed to supporting the THOR and may be able, for example, to arrange for extra memory boards to be built.

QUANTA WORKSHOP IN LONDON - LATEST UPDATE!

Jeremy Davis has just circulated a memo to the effect that the QUANTA Workshop, which we reported as having been switched from Saturday to Sunday 9th June. They've now had to switch venue to St Peter and Paul's Church Hall, 1 Amwell Street, Clerkenwell, London EC1. More info on 081-863-1631 or 071-328-5407.

C.G.H. SERVICES - HARDWARE AND SOFTWARE SUPPLIERS

We hope to start selling Atari, Commodore and Goldstar computers, Philips monitors and Citizen, Seikosha and Sharp printers, plus a wide range of peripherals and software soon. One effect of this is that we'll have to be registered for VAT to be able to reclaim the 17.5% VAT we'll be paying on all goods. Note this will also affect our existing software that we publish, and a complete revised price list will have to be circulated. As all this will render our previous price lists obsolete, we're drwaing a deadline of 30th June for the receipt of orders without V.A.T. We do not, as yet have a date for starting on V.A.T., so the best thing would be to contact us after 30th June. We'll be announcing the details in QL World and QUANTA as well (if they print them!) We're suspending our adverts for the same reason. Please note that we're not dropping the QL, but expanding in order to keep going financially. We have many programs waiting to be published and will keep the magazines going as long as people write for them and buy them.

C.U. Soon,
Richard Alexander

The screen presentation is quite attractive on the whole, and should suit TV and monitor users. Options are accessed from a clear menu. However, I would suggest some minor changes to the operation of the menus should expanded versions of the programs ever be produced. J_BILLS offers options numbered from 1 to 11, which are selected by moving to the required option with the cursor keys and pressing enter. I would prefer to see the menu identified by letters A to K, allowing an option to be selected by the shortcut of pressing the appropriate letter, as well as use of the cursors and the space key as well as the enter key. Movement should be allowed from A to K and back via the short route, i.e. missing out B to J.

There are programs by Joe in the QUANTA library, which should give some idea as to his style of programming and program presentation.

HOUSEHOLD MANAGEMENT

The philosophy of this program is that you avoid paying household bills earlier than you need to thereby allowing you to keep your hard-earned money in an interest-paying account for as long as possible. Whether this will pay off will of course depend on your general arrangements for managing the household budget. A potential scenario I can visualise is that of QL-owning men trying to persuade their computer-hating wives to sit at the keyboard and plan the forthcoming months' expenditure; or being given a printout to tell them when to settle the bills. (If this comment seems sexist - sorry! It isn't meant to be taken seriously.)(Doesn't stop it being sexist though - ed!)

I am afraid I would find it hard to live according to the discipline required by this system, but it is up to you to judge whether you would find it of use in your own circumstances. The user is given the freedom of choosing the account headings, so it is possible that some small businesses may find this package of use for cash flow management. On the other hand, similar applications could probably be developed as an Abacus spreadsheet. Abacus, however, is not a very large spreadsheet by modern standards and lacks some features needed to develop foolproof applications. So to avoid having to design your own system, Home Budget is a reasonably priced package, is fairly easy to use and offers sufficient flexibility for most users.

COMPARISONS

While reviewing such home finance programs available on the QL, I haven't seen anything quite like Joe Haftke's J_BILLS. However, SL Services used to sell a program called "Home Accounts and Budgets" and I would be interested to see a copy to etermine whether there was any similarity to Joe's program. Up to 1988/89 the Consumers Association published Which? TaxCalc for the QL, which offered many of the features of J_TAX. This was written in uncompiled Superbasic, probably modified from a BBC micro version. Unlike Joe's program, this did not allow the tax rules to be modified after the Budget, but instead required a new version of the program to be purchased. Used with the Which? Tax-Saving Guide, it probably provided more information to the user than J_TAX and by asking specific questions in a set sequence was possible more user-friendly for the inexperienced user.

Michael L Jackson

SMALL AD

SUBSCRIPTIONS

A Subscription to issues 7 - 10 of the QL Technical review will cost £6.60 (incl of p&p) in U.K.; £8.80 in Europe and £11.00 Airmail elsewhere.

PUBLIC DOMAIN NEWS

We've been lucky in the past few months, as several people have sent in progs to go into the P.D. Library or have donated existing ones. I hope this continues.

First is Wordscheck, that Dilwyn Jones has generously removed from his commercial list and put into the Public Domain. Dilwyn has added extra features to the P.D. version, to allow printing the words found into columns (amongst other things).

Andy Dean has been working on his 3-D program. Early days yet, but it currently allows you to manipulate a 3-D image, using text input. Andy hopes to allow images to be manipulated by a "Script" that can be loadeed into the prog. Also coming up are hidden line removal and shading. The 3-D image is made up of data statements which you'll need to work out.

For really flash 3_D grafix on the QL, you'll have to access the "elite" demos. We've got three versions of these on disk so far, some wire-frame, some solid. The grafix represent various "spaceships". Another QL first - a bouncing scrolly message, similar in style those found on ST's and Amigas. Sadly the versions we have are not Minerva compatible. Also in the pipeline from them is a game featuring their grafix routines.

Two new names to the P.D. list are Ray Dent and Jimmie Robb, who've both sent in a disk load of progs. Jimmie's progs are mainly printer orientated, with ones to print letterheads, disk directories in multi-columns (for A4 paper), parcel labels and templates for cassette labels (for use with QL DTP progs.) Jimmie has thoughtfully included a printer tutorial prog for Epson printers.

Ray Dent's progs are more specialist, but include an Archive program to work out photocopier costings, including a billing form for clients, a costing prog for telephones and a selection of his program development routines.

Another new writer for the P.D. Library is G. Taylor, and his prog, like many we carry, comes courtesy of the Scottish QL User Group. He has written "Double Pendulum" which calculates the track of a double pendulum. This needs Turbo toolkit and TK2_exts.

Alan Pemberton has been working on the ST-QL Screen transfer program with Rich Mellor. This now incorporates a substantial QL screen/image processor program, which allows for recolouring, shrinking, cut and pasting, mode changing etc. Rich and Alan will be working on this even further, speeding it up and ironing out some bugs to make it into a fully commercial program. One feature we'd like to add is a proper ST-QL file transfer program. There is one in the P.D. library but we need a different one, preferably one that will read ST folders. (Royalties will be paid!)

The crew who wrote the "Elite" demos have also passed on a "SpecLoad" program. This operates via the network lead. I've seen them using this, but sadly there is no documentation for the program. If anyone can provide further information on these we'd appreciate it.

Ian R. Bruntlett has been busy with his investigations of the pointer environment - see his articles in recent and forthcoming QLTR's and QL Worlds. He has written a menuing program (BØPeep) for use with QPAC2, WMAN, PTR_GEN etc and has used it on the Ralf Biedermann and Oliver Fink disks. Ian has also donated a few more progs - and we'll be collecting all these onto a disk of his own in the near future.

Among new program demo disks added to the library is one for Norman Dunbar's "Winback" program. The full program allows for the backing up of Miracle System's Hard Disk system - with this demo you can see if it's what you need. (You can also try out the other hard disk backup progs in the P.D. library!)

The really good news for you all is that we shall be constructing a full disk catalog for the P.D. Library. Ideally I'd like every disk to have it's own menu. The disks will be arranged thematically, like the "mdv batches". So if anyone out there fancies taking on organising a P.D. disk or more, let me know. We'll then sell the disks for £2.00 each (including the media) which will simplify the whole business for everybody. Another feature will be free updates to disks, once you've bought one, if we add more programs to it, you can have them for nowt (well a wee jiffy bag and a couple of stamps). Depending on the response we should have these ready by the summer